

are probably in most cases the owners of the properties needing sanitary amendment. In England, on the contrary, Dr. Finn points to the frequency with which rural sanitary authorities combine amongst themselves, and at times also with urban authorities, in the appointment of a single officer of health, to whom it is then possible to give such a salary as will command the entire services of a really competent and independent officer. The contention is true to a certain extent, but it must be remembered that the same system which Dr. Finn describes as faulty in Ireland is precisely the one which the poor-law inspectors, to whom the English Local Government Board originally looked for advice in this matter, secured throughout a very large portion of England when first the appointment of medical officers of health became compulsory in 1872, although it is true that the same Board has during the past five or six years been striving its utmost to undo the arrangement then carried into effect. It was originally felt that a local officer whose other duties necessitated his constant presence in every portion of his district would be the most competent of all to advise as to its sanitary circumstances, the more so as he, of all others, would have the earliest information as to the existence of preventable sickness and death. At first sight the idea seems a very plausible one, and if the principal duties of an officer of health were to be performed on the occurrence of disease, it might still find intelligent supporters. But it is essentially the prevention of the conditions leading to such diseases, and not their remedy after the disease has occurred, that should be looked for from the officer of health, and it is daily becoming more and more apparent that wider districts, supplying wider experience and commanding more skilled services, tend to this, rather than narrow areas which are only looked after during the performance of multitudinous duties of a more pressing character. It is not that the dispensary or poor-law medical officer is necessarily incompetent to perform the duties expected of an officer of health, for in England such officers at times hold both appointments with considerable advantage; but the great mistake which was originally made in England, and which has been repeated in Ireland, was to regard men as competent to perform the duties of one office merely because they held another office involving the performance of totally different duties.

The present is, however, a period of transition in this matter, and the public cannot expect to secure the highest procurable services until degrees and diplomas in sanitary science shall be so universally taken by those who seek public health appointments, that it shall always be possible to find candidates possessing the needful guarantee that they are competent to perform the duties of medical officer of health. The principle of combination by several authorities to secure the entire services of a single officer of health over a reasonably large area tends to efficiency, and most of such officers recently appointed have been able to prove their fitness for the post by the possession of some such diploma as we have referred to, and which can now be procured in each of the three divisions of the United Kingdom.

We have given this matter some prominence because of the importance which attaches to it wherever medical officers of health are appointed, but the Institute dealt at Dublin with many other subjects which are of equally

pressing importance in Ireland. The need for improved dwellings for the poor, for adequate supplies of wholesome water, for efficient means of drainage, and for some proper methods for the disposal of refuse, are urgent requirements in many parts of Ireland. The lack of them causes needless mortality and sickness, and the methods by which they may best be supplied were fully indicated. As a test of the needs of the country in these respects, statistics as to deaths and sickness need to be intelligently examined, and amongst the contributions to the Congress few papers were of more value than that in which Dr. Grimshaw, Registrar-General for Ireland, dealt with the statistical measures of the health of communities, and so explained how a proper estimate of the health of a district may best be arrived at.

CONTRIBUTIONS TO PHENOLOGY

Beiträge zur Phänologie. By Dr. Egon Ihne and Dr. Hoffmann. (Giessen: Published by the Authors, 1884.)

PHENOLOGY, the observation of the first flowering and fruiting of plants, the foliation and defoliation of trees, the arrival, nesting, and departure of birds, and such like, has attracted the attention of naturalists from time to time for nearly 150 years. Some have continued their observations for several years and have formed therefrom a "Calendar of Nature"; others have gone still further and have tried to deduce more general results. But the subject is beset with difficulties, especially when an observer endeavours to procure the aid of others, and this has proved so great at times that the work has not flourished as much as it deserved. The subject has been most carefully studied by M. Quetelet of Brussels, and his writings have served as the basis for most of the subsequent attempts which have been made at organising a System of observation. Dr. Egon Ihne of Giessen, in connection with Dr. Hoffmann, whilst endeavouring to form a series of Charts of plant-flowering for Europe generally, has consulted all accessible works likely to contain any information on the subject. This information is most generally scattered through the Transactions and Reports of Botanical and Local Societies, but still there is much to be obtained from other works, whose titles would not lead one at first to consult them for the purpose. The number and minuteness of the notices mentioned by these Professors, shows that they must have spent a long time in preparing this work, and very valuable service has been rendered to Phenology by publishing the list of sources from which information can be obtained. The total number of works noticed is 196, and naturally those published in Germany are most numerous. It will, however, surprise many to find that, whilst 102 German works are noticed, Great Britain with only 21 comes next, leaving 73 for the rest of Europe. It must be evident, therefore, that, notwithstanding the great care taken in compiling this list, there must be many works not noticed which contain phenological information, and the Authors would doubtless welcome notices of any works omitted from their list.

The main part of the book consists of a short account of the progress of Phenology in each of the countries of Europe, followed by a list of the works published in that country, with such short notes as may suffice to explain the nature of the information each contains. To this is

added a very complete index in two parts. The first part gives a list of the stations at which observations have been made, arranged alphabetically under the names of the countries of Europe in which they are situated; the total number of such stations is 1926. The second part consists of the names of these 1926 stations arranged alphabetically, with the years in which observations have been taken, and references to the works in which these observations are recorded. Some very curious facts may be obtained from this index. Whilst there are 315 stations in Great Britain, there are no less than 918 in Germany and Austria, and consequently 693 for the rest of Europe. But a more critical examination of the list reveals the fact that, of these 1926 stations, only 334 were taking observations in 1882, the date of the compilation of the work, and at only 97 of these 334 stations had observations been continued for ten years or more. Even this small number requires modification, for out of the 97 only 60 had observations for ten *consecutive* years, thus showing how spasmodically the subject had been treated till quite a recent date. Of the 1592 stations at which observations have ceased, there are only 210 with records of ten years and over. Considering the nature of the subject, ten years' work must be considered as the very least from which anything reliable may be deduced; whence, small as the number is compared with the large number of stations at which phenological work has been done, it is yet satisfactory to find that there is some good material to be obtained. Of late years the subject has been much more attended to, especially in England, since the Royal Meteorological Society took the matter in hand, and of the 334 stations at which observations are now taken, no less than 94 are in Great Britain and 112 in Germany.

Dr. Ihne regrets that the observations as taken for the Royal Meteorological Society refer to herbaceous rather than woody plants, and are exclusively confined to wild flowers and not to cultivated ones. His own list, which has been very generally distributed throughout Europe, has been drawn up on a different principle, and without entering into definite reasons, he condemns the Meteorological Society's list. Certainly in England, in the only case besides that of the Meteorological Society where a comparison of flowering throughout England has been tried, cultivated plants have been entirely excluded, being found by actual experience to yield no reliable results.

The second part of the work is taken up with an enumeration of the notices on the plants in the list issued by the Professors taken during the years 1879 to 1882. It would have been perhaps more convenient if they had been exhibited in a tabular form; at present it would be a work of some labour to extract the notices for the purposes of comparison.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

The Younger School of Botanists

A COMMUNICATION from the Rev. George Henslow to last week's NATURE (p. 537) concludes with the following passage:—

"There are not wanting signs elsewhere of the evil effects of the younger school of botanists not recognising the importance of first training students in a thorough course of practical and systematic botany before proceeding to laboratory work. In an examination lately held for a post at Kew, I am informed that two gentlemen who had been trained at Cambridge competed with a gardener for the post. The gardener secured it. *Verb. sap.*"

The last sentence is no doubt intended as a sort of *argumentum ad hominem*, which it may be admitted is not without a certain apparent force. Assuming for the moment the statement to be true, it must be pointed out that the only scientific posts at Kew which are open to public competition are those of assistants in the herbarium. These posts demand qualifications of a somewhat technical character, for which a general training in botany would by no means necessarily fit the candidates. I can imagine that a senior wrangler might fail in a competition for a post of computer in an observatory where arithmetical dexterity was the main thing required; a senior classic might cut an equally poor figure in seeking an appointment of library assistant if he were tested in the art of writing catalogue slips. I apprehend that in neither case would failure prove anything as regards either mathematical or classical education.

The examination to which Mr. Henslow alludes can only be one which was held by the Civil Service Commission during the past summer. There were, I believe, some dozen candidates; whether any Cambridge men were amongst them I am unable to say. But the successful candidate was not a gardener, but the laboratory assistant of the late Professor of Botany at Oxford—a gentleman whose services the present Professor is in despair at losing.

On a former occasion it is true that one of our garden staff did obtain one of these appointments in an open competition. It is not very remarkable that it should be so. Men of ability on the spot have, of course, great facilities for seeing the nature of the duties required and for qualifying themselves accordingly; furthermore they have the advantage of the lectures of my colleague Mr. Baker, which are especially directed to the branch of botany which principally occupies us at Kew.

As to the larger question raised by Mr. Henslow, I am afraid I am not wholly free from some responsibility for the proceedings of "the younger school of botanists," the effects of which he regards as evil. In the face of the successful revival in this country of many branches of botanical study which the younger school has effected, I am emphatically of the opinion that these effects are the reverse of evil. I believe I was one of the first to organise a course of so-called laboratory work in botany on lines which it is only right to say were borrowed and extended from the teaching and example of Prof. Huxley. In what I attempted I had the generous aid of many now distinguished members of the younger school. I do not doubt that they have immensely improved on the beginning that was in the first instance somewhat tentatively made. But the principle, I believe, has always remained the same, namely, to give the students a thorough and practical insight into the organisation and structure of the leading types of the vegetable kingdom. When, therefore, Mr. Henslow, himself a teacher, asserts that such laboratory teaching as this should be preceded by a thorough course of practical and systematic botany, it appears to me that he is bound to explain what he precisely means by this very dark saying. For, if botanical laboratory work in this country is not thorough, is not practical, and, in dealing with types drawn from every important group, is not systematic, it is important to know in what respects it falls short of these requirements.

W. T. HISSELTON DYER

Royal Gardens, Kew, October 4

The Solar (Dust?) Halo

THE reddish halo to which Mr. Backhouse draws attention in his letter of September 20 in NATURE (p. 511) has of late been noticed by several observers, and this I think is because, while the sunrise and sunset glows have exhibited a marked decline in their duration and brilliancy since last winter, the halo has shown no similar diminution of intensity, and thus attracts more attention relatively than it did at first, when it remained for some time almost entirely unnoticed in this country. In reply to Mr. Backhouse's question as to whether this halo has been seen in England previous to last November, I have a very strong impression that it made its first appearance here coincidently with